2d. Pus discharged from the external meatus; violent symptoms all gone. Tepid water injected two or three times a day to carry off the pus. A moderate discharge continued for a few days, and then ceased; all constitutional irritation terminated.

A dull and heavy pain remained for sixteen days, which was meliorated, and eventually ceased, upon keeping cotton saturated with the tincture of digitalis in the ear.

I do not assert that the tincture of digitalis cured these cases; unquestionably much is to be attributed to the previous reduction of the phlogistic diathesis by venesection, &c. Relief, however, speedily followed the application of digitalis, especially in the first case. This medicine, it is notorious, has a direct and powerful sedative influence on the arterial system when taken into the stomach, and why may it not operate externally in a similar manner? My object, however, is to state facts, and not to theorize.

That digitalis reduces vascular action is indisputable. Some eminent physicians have confided so much in its sedative powers as even to make it a substitute for the lancet in the incipient stages of inflammation. Although this practice cannot be approved, there is strong reason to believe, that like opium, it has been excluded in cases of reduced arterial excitement, when prompt and permanent benefit would have succeeded its administration, both internally and externally.

That the capillaries of the part are always the seat of inflammation, is well established by Bichat, and the physician who has never seen a speedy reduction of topical inflammation by local remedies, after the failure of the most copious and general evacuations, has had a very limited experience, or been culpably negligent in his observations.

ART. VI. *On Gangrenous Erosion of the Cheek.* By SAMUEL WEBBER, M. D. of Charlestown, New Hampshire.

IN the American Medical Recorder, for July, 1827, there is a paper by Dr. JACKSON, of Northumberland, Pennsylvania, containing a number of cases, with remarks, of a disease of children, which he proposes to call Gangrænopsis, being the same called "Gangrenous Erosion of the Cheek," by BURNS and UNDERWOOD, in connexion with which Burns slightly notices, under the name of *Noma*, another and more destructive variety. The complaint, in its severer forms, aptricts are interspersed throughout the division, and particularly along the borders of the streams.

West of the low country, the surface immediately runs into hills, the summits of which are elevated from four hundred to one thousand feet above the range of the tide. Here the soil is frequently rocky or stony, and whilst the eminences are barren, the vallies are famed for their fertility. This hilly tract measures, in a western direction, from thirty to ninety miles, ending at the Conewago and Monocasy, which rivers meander along the foot of the mountains. The various ridges of the Alleghany chain, ascend, in this latitude, to the height of from one thousand five hundred to three thousand three hundred feet over the plane of the Atlantic.

Forests are universally acknowledged to exert a powerful influence on the climate of a region. By embracing in one view the three divisions just described, we presume that the trees and shrubs which originally shadowed almost the whole surface, will be perceived to cover at present less than one-half of it. In the low country, two-thirds of the soil without doubt are cleared and under cultivation, whilst the mountains, both from the nature of their surface, a portion only of which will admit of tillage, and from the paucity of their inhabitants, have undergone but a small change from their primitive condition.

To these prefatory remarks we may add, that since difference in altitude will always cause a variance in meteorological phenomena, each of the natural divisions of the territory under consideration, must, consequently, exhibit certain features of climate peculiar to itself. The general temperature of the atmosphere, is, of course, greatest on the low country, and least on the mountains. On the latter, the weather is generally similar to that which occurs along the sea-coast, two and three degrees to the north. Within one degree of latitude, however, little other variation can be detected in the aerial phenomena, than that produced by diversity of elevation, or that effected by dissimilarity of surrounding surface.

The four seasons attributed to regions in the temperate zones, are well defined in the fortieth degree. Each season nearly or quite occupies its proportionate part of the year. The spring is recognized in March, April, and May, by a steady and gradual increase of the temperature, which averages for the whole period about 54°, and developes the foliage of the whole vegetable kingdom. The summer, evidenced by the extreme heats of the climate, follows in June, July, and August, which months possess a mean temperature of 74° to 75°.

The autumn is marked in the three succeeding months by the gradual decline of the heat, so that its average becomes about 56°, and by the slow but complete extinction of deciduous vegetable life. The winter, following in December, January, and February, with its train of snows and frosts, offers a mean temperature as low as 35° or 33°. Allusion is here made to the seasons in the low country, to which division all other remarks are to be considered applicable, without the contrary is expressed.

It were a perfection in the climate of any region did the atmospheric phenomena always progress in some regular manner, since all those numerous transactions in society which are more or less influenced by them, could, in that case, be executed with a greater probability of success; and human life itself, constantly jeopardized and destroyed from ignorance of future weather and temperature, would be held under a less precarious tenure. The climate of no part of a temperate zone, however, is distinguished by such regularity. In this latitude, where the weather is noted for a peculiar inconstancy, we scarcely hope for a similarity in the seasons of two successive years, as experience proves that the same season is constantly varying in its heat, in the quantity of moisture, and in the number, suddenness, and excess of its vicissitudes. The first effects which the vernal atmosphere produces on vegetables, are usually perceived in the first or second week of March, by greenness commencing on the earlier developing plants. The severe frosts, to which March is obnoxious, nip these early productions, and the month altogether is too cold for a hasty vegetation. But in April, the unfolding of leaves and flowers advances speedily, and after this month meets with no interruption. The range of the dates at which vegetation commences is very wide. February sometimes adorns the fields with the verdure of their miscellaneous plants. In 1824, the pastures appeared green in January, whilst sprouts two inches in length protruded from the common elder, (*Sambucus nigra,)* and similar untimely appearances are recorded of January, 1828. On the other hand, all the deciduous organization has been observed locked fast within the bud, until the concluding days of March.*

A period of note in the progress of the year, is that of the display of the blossoms on the fruit and forest trees. The former commonly flower in April, and the latter at the end of the same month, and in

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* This was the case in the spring of the present year, 1829. We here remark, that all the facts it is found necessary to relate, were obtained either from our own observation, or from authority of unquestionable accuracy.

May. The range in the dates at which, in a series of years, any kind of tree commences to bloom, measures in length in an inverse ratio to the quantity of heat necessary to effect this expansion on it. Thus, during the last nine years, the dates of the blossoming of the peach tree include one month, whilst those of the Liriodendron but eleven or twelve days. The peach tree, in 1808, was noticed in the precincts and neighbourhood of Baltimore, covered with flowers on the 28th of February; and in 1828, the same development recurred in the south of New Jersey, during the first week of March; but in 1821, this tree did not blossom until the 29th of April. These dates are offered as the extremes of the period during which efflorescence commences on this extensively cultivated fruit-tree.

The idea of a vernal season is habitually associated with those of a mild temperature and a serene sky, and although an inhabitant of this latitude may occasionally in the spring enjoy the reality of this poetic combination, yet the facts fail to distinguish the chief part of the weather of the season. The atmosphere during March and April, and frequently during May also, is excessively variable in its temperature and perceptible moisture, whilst chilling and wet weather occupy a considerable portion of the time. This character of the spring is principally obtained from the extensive sweep taken by the prevalent winds: the south-west brings the air from the tropic, and even from near the equinoctial line;* the north-west comes forth from regions beyond the mountains and lakes, where the snow and ice are as yet undissolved; and the north-east arrives from the seas about Newfoundland, which at this time in the year are covered with a cold atmosphere, remarkably surcharged with moisture. The change of one of these winds for another, will cause the temperature of one day to differ 20° or 25° from that of the preceding, and the north-west following the south-west often effects a sinking of the mercury 28° or 30°; as much sometimes as 35° between an afternoon and the following morning. Such depressions in the thermometer, which before the middle of April ranges commonly between 40° and 60°, and rises but on a few days to 65° or 70°, must consequently at times effect a congelation of the water in the atmosphere and on the ground: less or more of snow and ice is indeed always expected in March. In the last ten years there are recorded three instances of deep snow in April. The first is on the 14th of this month, in 1828, when the earth about the city of Philadelphia was covered six or seven inches deep, and sleighs ran for some hours on the highways. The second instance is on the 3d of April, 1825. In the third instance, which occurred in the first week of April, 1820, the snow, which fell to the depth of five and six inches, remained on the ground in places for more than a week, whilst the cold succeeding the storm was sufficiently intense, on two mornings, to depress the mercury to 18°.* By the same event, the mountains were covered a foot and a half in depth. In the year 1803, the ground was concealed by a fall of snow, on the 8th day of May. At this advanced date, the production of snow must, without doubt, be analogous to that of the hail frequently falling in the middle states in May and June, and to that of the sudden precipitation of water, attended with lightning and thunder, common to the whole warmer portion of the year. The latter phenomena are indisputably the effect of irruptions of cold currents, from the higher regions of the atmosphere into the warmer and moister stratum of air, lying next the surface of the earth.

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* See Volney's View of the Soil and Climate of the United States.

April forms the customary limit to frost. During the first ten days we usually observe the last instances of a freezing temperature. In an occasional year, the north-west winds will depress the mercury to 29°, and 28°, as late as the twentieth; and ice on small shallow pools, which may be formed, according to Jefferson, with a morning temperature as high as 38½° will be noticed in the first part of May. It is the occurrence of frost after the blossoming of the fruit trees, that renders a profitable cultivation of them so uncertain. To failure in the production of their fruit from this cause, the apricot, the species of *Amygdalis*, and their varieties, are especially liable: but, it is a curious fact, that the fortieth degree is more propitious to the cultivation of these fruits, than the latitudes adjoining on the south, for in them the trees blossom earlier, whilst the severity of the frosts of April and May appears to be very slightly diminished.†

The extreme heats of the climate usually commence in the beginning of June. During this month, July, and August, the daily fluctuation of the mercury is customarily embraced by points between the sixty-fifth and eighty-fifth degree: and, on averaging the highest temperatures of the whole number of days, there will commonly be obtained a result of from 80° to 82°. May and September, with the summer months, contain all the hot weather; and when these important five months exhibit ordinary warmth, they include sixty or seventy days, with a heat in the afternoon as great as 80° or more.

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* Since the thermometer is affected variously in different situations, it is necessary to state, that throughout this paper wherever reference is made to the indication of the instrument, its position invariably was in the open air, eight, twelve, or fifteen feet above the ground, where it was freely exposed to the wind, and in the middle parts of the day surrounded by an extensive shade. Without a particular hour of observation is specified, but two kinds of temperature are ever alluded to; the minimum and the maximum of each twenty-four hours.

† At Richmond, Virginia, on the 25th of April, 1823, tubs of water exposed through the night were found frozen over. This city is in the latitude of 37½°.

The coolest summers are almost always those that are most rainy. Their coolness obviously results from the frequent communication of the temperature of the higher,* to the lower strata of the atmosphere, by the descent of the rain, from the subsequent evaporation of the water, and from the frequent canopy of cloud, which prevents the earth from receiving its usual amount of heat from the sun. The summer of 1814 is memorable for uncommon wetness; and its coolness was proportionate, since, according to a statement in the Medical Recorder, of 1818, the mean heat, at 3 P. M., of June, July, and August, collectively, was lower in 1814, than in any other year, from 1793, to that of the date of the publication. Coolness throughout a summer is, however, occasionally attended by dryness, as was instanced in 1816. During a considerable part of the remarkable summer of this year, a haze was diffused in apparently the superior regions of the atmosphere; and which at times intercepted so many of the sun's rays, that he could be attentively viewed without inconvenience to the eye. What subjected this phenomenon to general remark, was, that the sun's disc, at a part of the time, contained several dark spots, which, being visible without the aid of glasses, excited universal attention. White frost was observed on five successive mornings, terminating on that of the 11th of June; also on the 21st of the same month, and even in the first week of July. At the latter part of August the ground was again sprinkled with frost; the mercury having fallen to 46°. Many districts suffered by drought during this summer; and the frosts of June, with the general coolness of the season, were so unfavourable to the maize, that in some places not half the usual crop was produced: the later ripening varieties failing entirely to mature.

The most intense heats of the summer are designated on the thermometer by 90, 93, 96, 98, and 100 degrees. The mercury arrives among these points, on at least three or four days of every summer, and in some seasons on ten or fifteen days. The frequency of the elevation to these extremes is not always proportionate to the general temperature of the season.

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* On the morning of the 4th of May, 1827, frost and ice were observed, and the tender garden plants were quite destroyed, even as far south as at Cheraw, in South Carolina.

Among the summers of the present century, those of 1819 and 1827, are the most distinguished for extreme heat. We are informed from the observations of Mr. BRANTZ,* that during the five warm months of the former year, the mercury, even as early in the afternoon as at two o'clock, stood at or over 80° on eighty-one days; on thirty-three of which number the temperature exceeded 89°.

In 1827, from the first of May to the 30th of September, the thermometer rose to or over 80° on ninety days. Twenty-two of these exhibited the instrument above 89°. The extraordinary heats of 99° and 100° were indicated in all cool out-door situations, on the 5th and 6th of August.

The higher situations on the mountains are never visited by heats of that intensity, remarkable in those experienced on the plains. Invalids and fashionables, who, in the summer, retire to Bedford, situate near the most elevated ridge of the Alleghany chain, find thick clothing, with fires in the mornings and evenings, necessary to their comfort in July and August. White frost is occasional in these months, and even ice has been gathered from small pools of water in July.

The autumn is, to the majority of the population of this parallel, the most agreeable of the seasons. During the latter part of September, and quite the whole of October, the weather is most commonly serene, and the temperature usually remains in that condition which neither produces a sensation of unpleasant warmth, nor, to the healthy, sufficient coldness to render fires necessary for their comfort. This period has been declared by Americans of observation, who have spent years in Italy and southern France, to excel the most pleasant seasons of those countries, so famed for the beauty of their climates. Slight white frosts are noticed on low grounds in the latter half of September, and general white frosts, caused by a morning temperature of 42° and 40°, appear in the first ten days of October. These expedite the change and fall of the leaf on the delicate forest trees, though they injure but slightly the verdure of the hardy trees, and that of the tender field and garden plants, as all these vegetate until the latter part of October, when a series of heavy frosts, produced under a temperature near or below the freezing point, destroys almost the whole of the deciduous vegetation.*

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* This gentleman has recorded the meteorology of several years. His very accurate and instructive observations were published, in monthly tables, in the Baltimore Gazette.

The variation in the dates of the occurrence, and in the severity of the first autumnal frosts, is considerable. September sometimes passes away without a temperature lower than 50°, which is a depression scarcely great enough to effect the slightest congelation of the dew. In 1822, the tobacco, palma christi, and plants of a similar tenderness, were seen in open places, but little injured, as late as on the 25th of November. In 1823, on the contrary, the same plants were destroyed in the last week of September. But although we view occasional irregularities in the weather of the autumn, it is, nevertheless, distinguished in successive years by a greater similarity in its meteorology than appertains to any other season.

The winter is characterized by excessive variability. This portion of the year consists entirely of a continued alternation of snow and severe frost, with storm, rain, and occasional temperate and serene weather. The average heat of any of the months, when compared with that of the same month in another year, may be found to differ 20°, or even more, and the more remarkable phenomena of the season, the ice and snow, constantly vary in different years, both in their quantity and in their duration.

The falls of snow are commonly under six inches in depth, and they occur at five, seven, or ten times during the three winter months. It is unusual to see the surface of the ground entirely or nearly covered with this emblem of the season for more than a week at once, for the sun, with a clear sky, dissolves it in open places, whenever the temperature of the air rises even near to the freezing point. But, in some years, falls of snow happening in quick succession will keep the surface in exposed places, if they be level, quite covered from three to five weeks together. Thus, in 1817, the snow lay from two to six and eight inches deep, from the 19th of January to about the same date in February, and in 1820, the surface was hidden by it during nearly the whole of January. In the winter of 1820–21, snow concealed the ground, with the exception of a few of the eminences, from the 26th of December to the first week of February, and at a part of the time measured, on a level, eighteen inches in depth.

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* Similar to the course of the late frosts in the spring, the early frosts of the autumn extend themselves far to the southward. The first and only ice that was made at Baltimore, in October, 1827, was formed, one-tenth of an inch in thickness, on the 27th of the month. At the same date, as the public prints informed us, ice as thick as a dollar, was noticed at Charleston, South Carolina.

As instances of that class of winters which are most deficient of snow, may be offered these seasons in 1825–26 and 1827–28. In the former, snow fell but once, to remain on the ground more than a day; its depth was then four inches, and it had disappeared in a week after its fall. No snow was perceived on the ground, either in the preceding autumn or in the following spring. During the months of December, January, and February, 1827–28, snow was noticed on the earth but thrice, and the surface was never covered for twenty-four hours together.

The following is a statement of the extreme depression of the mercury in the last thirteen winters. One fact relative to the extremities of the temperature of this climate may here be remarked. In the last thirteen years, the degree of the greatest heat of each summer has occurred within the space of 8°, whereas the degree of the greatest cold of each winter has fluctuated among 27°, as the succeeding table evinces.

1816–17,	— 4°	in February.	1823–24,	. . 8°	on the 5th of Feb.
1817–18,	— 2	on the 10th of Feb.	1824–25,	. . 9	on the 4th of Feb.
1818–19,	. . 5	on the 18th of Dec.	1825–26,	. . 4	on the 1st of Feb.
1819–20,	— 2	on the 1st of Jan.	1826–27,	. . 4	on the 28th of Dec.
1820–21,	— 11	in January.	1827–28,	. . 16	on the 22d of Jan.
1821–22,	. . 1	on the 5th of Jan.	1828–29,	. . 11	in Jan. and Feb.
1822–23,	. . 6	in February.			

In conclusion of these remarks on the course and variations of the seasons, we adduce the mean temperatures of the chief part of the months of six late years. The two columns of observations, formed from noting the minimum and maximum temperatures of every day, were added up at the end of the month, and the amounts divided by the number of their respective observations. From averaging two results formed by this method, each of the numbers which follow were obtained.

YEARS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1823	33.3°	27.5°	39.7°	54.2°	62.7°	70.2°	75.6°					
1824	36.3	34.2	40.4	52.6	62.2	71.8	77.2	74.5°	66.0°	57.1°	46.3°	40.1°
1825	36.	36.6	45.8	53.	62.7	75.1	79.1	73.8	66.6			33.8
1826	34.2	36.9	45.3	50.1	70.2	75.2	77.3					
1827	30.4	40.9	46.7	59.6	65.5	72.	78.3	76.8	66.1	56.3	42.	41.5
1828	37.6	43.7										

That an important change has taken place in the climate of this latitude since the early periods of its settlement by Europeans, will not at present admit of dispute, although fifty or sixty years back, when the opinion was first agitated, there were many who did not give it credence. The meteorological history of the last twenty or twenty-five years is quite deficient of those relations of long-continued cold, and deep and durable snows, which are recorded in close succession in the histories of the last century. A similar amelioration in the temperature of the colder portion of the year has happened in all the higher latitudes, when the countries which they traverse had become thickly peopled, and their soils had been subdued to a correspondent cultivation. It is now no longer doubted but that clearing the surface of the forests produces this effect. The ground being freely exposed to the rays of the sun, by the destruction of the shrubs and trees, becomes in consequence more intensely heated, and its incumbent air is immediately supplied with a greater quantity of caloric, for the earth is the grand reservoir whence the atmosphere receives its warmth. By this simple and readily explicable process, Italy and France now afford a congenial atmosphere to the orange and the olive, where the winters, one thousand eight hundred years ago, exhibited the rivers bound with ice, and the earth deeply and permanently covered with snow.

The more remarkable particulars of the change, which the climate of this latitude has undergone, appear to be as follow:—1st, the wind is more variable; 2nd, the winds from the western semicircle have declined in number; 3rd, snow and ice are formed in smaller quantities, and are less durable, and the general temperature of the winters has increased.

1st. On referring to the causes, which are known to influence the motions of the atmosphere, the conclusion is obvious, that the aerial currents would move with less regularity and steadiness, after large portions of surface, cleared and thereby rendered disproportionately hot, had become new powers in effecting motion in the atmosphere, than when acted on solely by those causes, which permanently belong to the continent. There are but few facts preserved from the oblivion of former ages, which relate to this subject. A late volume of the Transactions of the American Philosophical Society, contains the translation of the diary of a Swedish clergyman, who noted the courses of the wind on the Delaware, in the seventeenth century. I have not the work now before me, but from recollection, I state, that the tenacity of the wind to a few neighbouring points of the compass, as described by the Reverend observer, for exceeds that exhibited in journals of the winds of present years.

The Swedish professor, Kalm, who travelled in North America, in the years 1748 and 1749, has formed some valuable records of its climate. In his register of the courses of the winds at Philadelphia, and at a situation in New Jersey a few miles southward of that city, we find the currents occasionally flowing from three or four adjacent points of the compass, for five and seven days together: and, in the tabular observations of the celebrated Bartram, which were taken in the summer and autumn of 1749, and are appended to the work of Kalm, the wind is marked at several times to have blown from one direction five or six days in succession, and once, in the latter part of July, from the west for the space of eleven days. But the inconstancy of those winds of longest continuance, the N. W., N. E. and S. W. is now so increased, that, allowing to each an eighth part of the circle for its vacillancy, its duration is rarely over two and three days. Tables of the winds for five years, offer not a single instance, when currents from within any eighth part of the compass, existed more than five days together.

2nd. Jefferson, in his Notes on Virginia, remarks relative to the east and south-east breezes, which commence in the afternoons, of the warm months especially, "that they have advanced into the country very sensibly, within the memory of people now living, as they formerly did not penetrate far above Williamsburg, but are now, (1782,) frequent at Richmond, and occasionally reach the mountains." There is no reason to suppose, that this increase of the easterly winds was the effect of any other cause than the cultivation of the soil; from which similar changes in the motions of the atmosphere has doubtless been produced in the whole maritime region, at least of the middle latitudes of the United States.

Dr. Williamson, writing in 1770, observes, "that seamen, who are deeply interested in the subject, informs us, that in the winter season they have been beating off our coast, three, four, or five weeks, not being able to put in by reason of the north-westers: they are now seldom kept off twice that number of days.*

In the ten months, between the first days of August, 1748, and June, 1749, Professor Kalm has recorded four hundred and seventeen observations on the course of the wind. Of these, forty-six are marked with the cardinal points N. and S.: of the remaining three hundred and seventy-one, two hundred and seventy-three, or three-fourths, are on winds from the western, and ninty-eight, or one-fourth, on those from the eastern semicircle. Easterly and westerly winds occupy, at the present time, each about the same number of days in the year. Hence, we infer, that the decline of the westerly winds in eighty years, equals one-third of their number at the commencement of that time.

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* Transactions of the American Philosophical Society, Vol. I.

The greater frequency of the winds of the eastern semicircle, most of which receive the abundant evaporation from the Gulph stream, may be offered as a sufficient explanation for that increased dampness in our atmosphere which has been noticed by Dr. Rush and others.

3rd. All accounts concur in the assertion, that for many years after the first settlement of the middle colonies, the earth, in this latitude, was partly or entirely covered with snow for three or four months annually. Forty or fifty years ago, when the decline of this conspicuous phenomenon of the winter had become a subject of general remark, the usual depth of the snow, in this season, was according to Rush, from six to nine inches, though sometimes between two and three feet: and, in uncleared districts, it occasionally lay until the first week of April.

We are informed by the same author, that in the year 1740, the river Delaware was crossed on the ice in sleighs at Philadelphia, on the 16th of March, and that the navigation to that port, did not open until the 24th of the same month, and that in the winter of 1779–80, this river was frozen across, at the same place, for nearly three months. In the year 1705, snow is related to have fallen a yard in depth. During the winter of 1697–98, the Delaware was passable on the ice for sledges below Christiana creek; and the author, from whose work this fact is extracted, also states, that the same river is *seldom* frozen across at Newcastle.* Messrs. Mason and Dixon, whilst engaged in astronomical observations, about thirty miles west of Philadelphia, in the month of January, 1767, saw the mercury, in the open air, fall to 22° below zero. In the winter of 1783–84, the snow lay in many places in the south-eastern part of Pennsylvania, from two to three feet deep during the chief part of the season, and all the rivers, which were frozen up in December, continued bound until the middle of March, with the exception of a short time in January, when the ice was broken, but not destroyed. These are a few of the many instances to be gathered from history, which testify to that abundance of snow, and durability of cold, which, if not constant, was formerly very frequent in a series of winters in this latitude.

The season of 1820–21, exhibited more intense cold, and deeper snow, than any other winter of the last twenty or twenty-five years, and, probably, than any other within the present century. The navigation to the cities of Baltimore and Philadelphia, was closed from the 24th of December, to the 16th of February, a space of nearly eight weeks. A north-east storm on the 6th of January, buried the surface fourteen and sixteen inches deep with snow. The same month contained the whole of the very intense cold of the season. The mercury was observed below zero on three mornings: yet one circumstance is remarkable in comparing the temperature of January of 1820–21, with that of the same month in 1779–80: in the latter, the mercury, according to Rush, rose to the freezing point but on one day, whereas in the former, fourteen days are marked by Mr. Brantz above that point. The river Delaware was frozen over, in this winter, for twenty or twenty-five miles below Philadelphia.

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* Kalm's travels, Vol. I.

There are handed down to us, however, a few memorable instances in ancient winters, when a remarkable mildness usurped the place of their customary severity. Swedish records state, that flowers were seen in the woods in February, 1714.* In or about the year 1756, apple trees were noticed in full bloom, and bearing young fruit, in December. But we are assured, from the unanimous assertion of aged persons, as well as from the Indian adage, "winter never remains in the sky," a conclusion founded of course on long experience, that such untimely mildness, was either preceded or followed by a full measure of wintry severity.

The extreme degree of cold to which the fortieth degree is liable, is, perhaps, still as great as it was one hundred years or more ago. This extremity attends north-western winds, and according to the received opinion, that increase of the general temperature, follows solely from the clearance of the surface, since the countries north-west of the lakes, have not undergone such a change, the atmosphere cannot have been altered in temperature at their sources. And, although in passing to the sea, the cultivation which the mountains and lands eastward have received, may usually mitigate the coldness of these winds, yet, they must disseminate their original temperature along the sea-coast, whenever they are of long duration, whilst the country over which they proceed, is continuously covered with snow: for snow receives but little heat from the rays of the sun, whilst it refuses to conduct the caloric of the soil beneath. Within this century, the mercury has been seen at 14½° below zero, in the hilly country, a few miles from Philadelphia, and at 11° below the same mark, in the immediate neighbourhood of that city. But there will doubtless be an amelioration in this particular, when Canada and the United States shall become thickly peopled, and generally cultivated: in this latitude, then, like the same parallel in Europe at present, snow and ice will become rare phenomena, and the orange, the olive, and other vegetables of the same class, now strangers to the soil, will become objects of the labour and solicitude of the agriculturist.

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* Some plants require but a low temperature for the production of their blossoms. The red maple flowers at almost the commencement of the vegetating season: as also Pothos fœtida, Sanguinaria canadensis, Anemone nemorosa, and many others.

Baltimore, August, 1829.

Art. VIII. *Case of Disease of the Bones successfully treated by the Internal Exhibition of Arsenic.* By John Henderson, M. D. President of the Huntingdon County Medical Society. (Published by request of the Society.)

On the 10th of June, 1818, Miss Martha M'Elheny, aged seventeen years, was brought to Huntingdon, by her friends, in this neighbourhood, with a view of obtaining my advice and assistance in a deplorable affection of the bones. On enquiry, I learned that the disease was first noticed about eighteen months before, when two tumours were observed, of the size of a nutmeg, about the middle of the radius of the left arm; that these soon ulcerated, and from them nine spiculæ of bone were thrown off at different times; and that others were forming on other parts. For the removal of these tumours, she had placed herself under the care of a respectable neighbouring physician, who put her under a severe mercurial course, and continued the salivation for near two months; which reduced her so low that, (to use her own expression,) "she could not raise her hand," with no other good effect, than that, during the mercurial action, the disease was kept at bay. Her debilitated situation precluded any further trial of the medicine, and the treatment was abandoned, after which the disease resumed its course, and she was left to her fate. As soon afterwards as she had regained sufficient strength to bear a ride of a few miles, she was brought to me.

She was then labouring under extreme debility; countenance very pallid; dyspnœa and palpitation of the heart, to a distressing degree, upon the slightest exertion; constant irritative fever with night sweats; the catamenial discharge had never appeared. Her father and mother's family had been remarkably healthy, no scrofulous or other hereditary disease had ever appeared in either of them, as far as